STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: January 29, 2016

FROM: Matt Urban
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Marlborough, 40516

TO Gino Infascelli, Public Works Permitting Officer
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Maintenance for the subject Major impact project. This project is classified as Major per Env-Wt 303.02(p). The project is located on NH route 101 over Robbins Brook in the Town of Marlborough. The proposed work consists of installing temporary scaffolding to accommodate repair of the deteriorating curb beneath the existing bridge rail.

This project was reviewed at the January 20th Natural Resource Agency Coordination Meeting. The minutes from that meeting can be viewed from the Department's webpage via the following link: http://www.nh.gov/dot/org/projectdevelopment/environment/units/project-management/nracrmeetings.htm

This project does not require mitigation.

The lead people to contact for this project are Steve Johnson, Assistant Administrator, Bureau of Bridge Maintenance (271-3668 or sjohnson@dot.state.nh.us) or Matt Urban, Wetlands Program Manager, Bureau of Environment (271-3226 or murban@dot.state.nh.us).

A payment voucher has been processed for this application (Voucher #424922) in the amount of $332.40.

If and when this application meets with the approval of the Bureau, please send the permit directly to Matt Urban, Wetlands Program Manager, Bureau of Environment.

MRU:mru
Enclosures

cc:
BOE Original
Town of Marlborough (4 copies via certified mail)
Randy Talon, Environment
Carol Henderson, NH Fish & Game
Edna Feighner, NH Division of Historic Resources (NHDOT Cultural Review Within)
Maria Tur, US Fish & Wildlife
Mark Kern, US Environmental Protection Agency
Michael Hicks, US Army Corp of Engineers

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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
http://des.nh.gov/organization/divisions/water/wetlands

PERMIT APPLICATION

Administrative Use Only	Administrative Use Only	Administrative Use Only	Check No.
			Amount
			Initials

1. REVIEW TIME:
Indicate your Review Time below. Refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact)

2. PROJECT LOCATION:
Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: **NH Rte. 101 over Robbins Brook**	TOWN/CITY: **Marlborough**

TAX MAP:	BLOCK:	LOT:	UNIT:

USGS TOPO MAP WATERBODY NAME: **Robbins Brook** ☐ NA STREAM WATERSHED SIZE: **3.87 mi2** ☐ NA

LOCATION COORDINATES (If known): **042`54'23.06" 072`11'33.36"** ☒ Latitude/Longitude
☐ UTM ☐ State Plane

3. PROJECT DESCRIPTION:
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The existing structure is a concrete slab bridge that has a 14'-0" clear span. The curbs are in a deteriorated condition. The bridge will be widened over the existing substructure and the curbs will be replaced in kind.

4. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

5. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:
See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB **16** - **0033** .

b. ☐ Designated River the project is in ¼ miles of: _____ ; and
date a copy of the application was sent to Local River Advisory Committee: Month: __ Day: __ Year: ____
☒ NA

6. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **Johnson, Steve W**

TRUST / COMPANY NAME: **NH Dept. of Transportation** | MAILING ADDRESS: **7 Hazen Drive**

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302**

EMAIL or FAX: **sjohnson@dot.state.nh.us** | PHONE: **603 271 3667**

ELECTRONIC COMMUNICATION: By initialing here: SWJ, I hereby authorize DES to communicate all matters relative to this application electronically

7. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.:

TRUST / COMPANY NAME: | MAILING ADDRESS:

TOWN/CITY: | STATE: | ZIP CODE:

EMAIL or FAX: | PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

8. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: **Weatherbee, Anthony N** | COMPANY NAME: **NH Dept. of Transportation**

MAILING ADDRESS: **7 Hazen Drive**

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302**

EMAIL or FAX: **aweatherbee@dot.state.nh.us** | PHONE: **603-271-3667**

ELECTRONIC COMMUNICATION: By initialing here ANW, I hereby authorize DES to communicate all matters relative to this application electronically

9. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a copy of the application materials to the NH State Historic Preservation Officer.
8. I authorize DES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of DES correspondence. DES will not forward returned mail.

Property Owner Signature	Print name legibly	Date
Steve W Johnson	STEVE W JOHNSON	11/28/16

MUNICIPAL SIGNATURES

10. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

⇨ Authorized Commission Signature	Print name legibly	Date

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. The Conservation Commission signature should be obtained prior to the submittal of the original application and four copies to the town/city clerk for mailing to the DES.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

11. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 1991), I hereby certify that the applicant has filed five application forms, five detailed plans, and five USGS location maps with the town/city indicated below and I have received and retained certified postal receipts (or copies) for all abutters identified by the applicant.

⇨ Town/City Clerk Signature	Print name legibly	Town/City	Date

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I(d):

1. For applications where "Expedited Review" is checked on page 1, accept the application for mailing only if the Conservation Commission signature has been sought;
2. Collect the postal receipts demonstrating that all abutters and the Local Advisory Committee were sent proper notice;
3. Collect any administrative fees, not to exceed $10 plus the cost of postage by certified mail (RSA 482-A:3,I).
4. IMMEDIATELY sign the original application and four copies in the signature space provided above;
5. Retain one copy of the application form, one complete set of attachments and the postal receipts demonstrating that all abutters and the Local River Advisory Committee were notified and make them reasonably accessible to the public;
6. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board in accordance with RSA 482-A:3, I; and
7. IMMEDIATELY send the ORIGINAL application form, one complete set of attachments and filing fee, by CERTIFIED MAIL to the NHDES Wetlands Bureau at the address indicated on page 1 of this application. (DO NOT HOLD FOR CONSERVATION COMMISSION SIGNATURE).

12. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

After-the-fact (ATF): work completed prior to receipt of this application by DES. Check box to indicate ATF.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland	0	☐ ATF	104	☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream		☐ ATF		☐ ATF
Perennial Stream / River	0 / 0	☐ ATF	1114 / 77	☐ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	0 / 0	☐ ATF	444 / 74	☐ ATF
Bank - Lake / Pond	/	☐ ATF	/	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
TOTAL	0 / 0		1662 / 151	

13. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of $ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

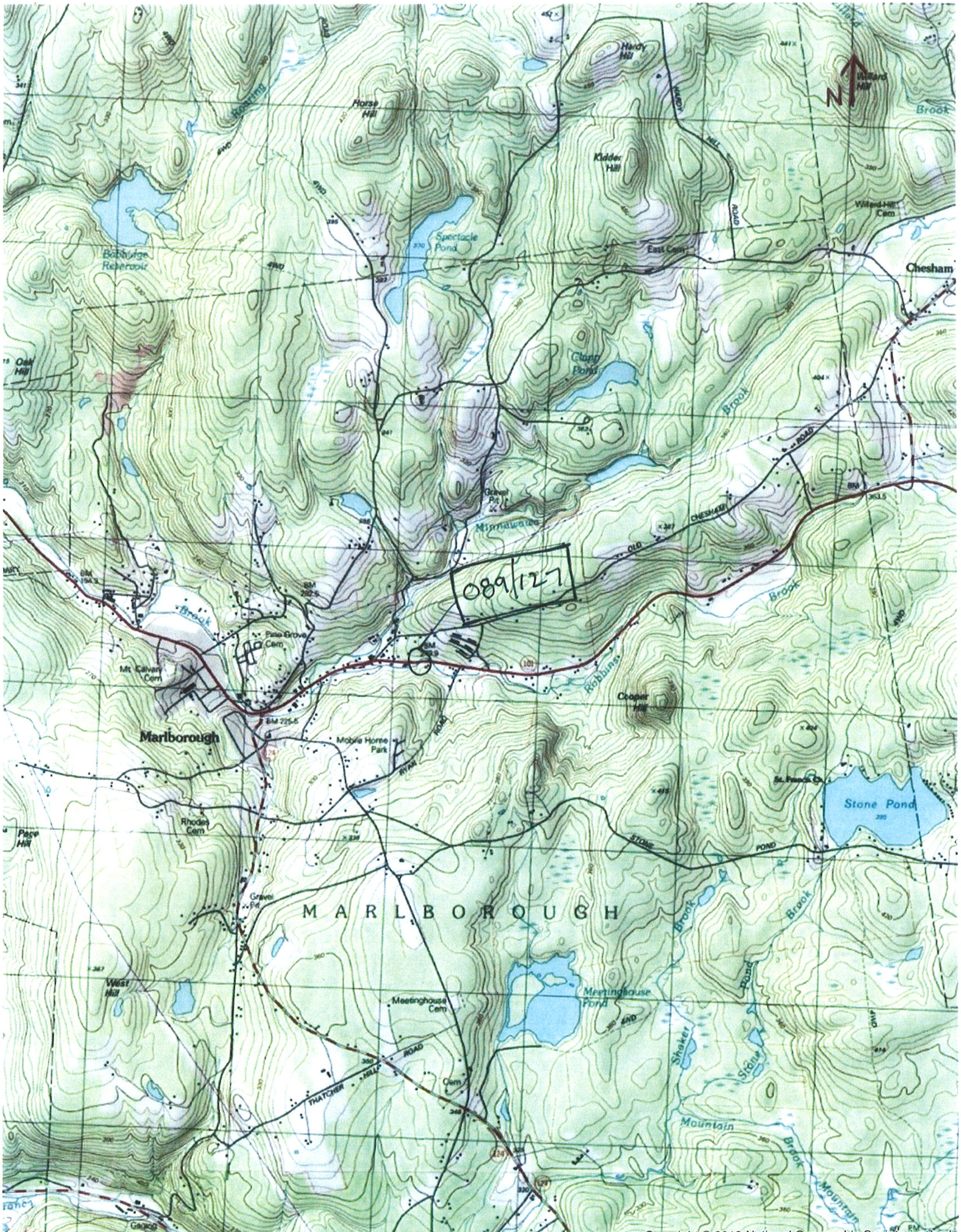
Permanent and Temporary (non-docking)	**1662** sq. ft.	X	$0.20 =	$ **332.40**
Temporary (seasonal) docking structure:	sq. ft.	X	$1.00 =	$
Permanent docking structure:	sq. ft.	X	$2.00 =	$
Projects proposing shoreline structures (including docks) add $200 =				$
Total =				$
The Application Fee is the above calculated Total or $200, whichever is greater =				$ **332.40**

CONSTRUCTION SEQUENCE

1. Temporary scaffolding will be placed in the brook.
2. The curbs will be replaced.
3. Temporary scaffolding will be removed and the site will be restored.

Note:

Project will use and maintain DES Best Management Practices at all stages of construction.



N
Horse Hill
Hardy Hill
Willard Hill
Kidder Hill
Willard Hill Cem
Bobbinge Reservoir
Spectacle Pond
East Cem
Chesham
Oak Hill
Clapp Pond
Brook
Gravel Pit
Minnewawa
OLD CHESHAM ROAD
089/127
Pine Grove Cem
Mt Calvary Cem
Marlborough
Robbins
Cooper Hill
Mobile Home Park
RYAN ROAD
Stone Pond
St. Francis Cp.
Rhodes Cem
STONE POND
Pine Hill
Gravel Pit
MARLBOROUGH
West Hill
Meetinghouse Cem
Meetinghouse Pond
Shaker
Stone
Mountain
Brook
Pond Brook
THATCHER HILL ROAD
Cem
Gaging Sta
Copyright © 2013 National Geographic Society, i-cubed

Attachment A. Delineation Plan

NHDOT Wetland and Stream Delineation

NH Route 101 (Main Street) Over Robbins Brook, Marlborough, NH

Top-of-Bank
Ordinary High Water
Wetland Boundary
Roads
Invasive Plant
ACOE Data Plot

Data Sources: NH GRANIT, NWI, FBE
Coordinate System: NH State Plane
Map created by FB Environmental, 2013

0 20 40 60
Feet

Notes: Wetlands were delineated in accordance with the 1987 US Army Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, v2.0, January 2012

SUMMARY REPORT- MARLBOROUGH, NH

089/127

General Site Description

The Marlborough site is located along State Route 101 (Main Street) where it crosses Robbins Brook. The survey area includes lands located 50 feet upstream and downstream of the existing bridge and 50 feet along each bridge approach a distance of 50 feet from the road centerline (Attachment A). Robbins Brook is located within the Middle Connecticut watershed, and flows generally southwest to Minneawa Brook. Wetland and stream assessments were conducted on November 15, 2013.

The environs surrounding the site consist of residential homes and commercial businesses along Route 101, and undeveloped woodlands away from the road. Land within the survey consists of hardwood forest north of the road and softwood forest to the south with some cleared land along Route 101. Soils within the survey area consist primarily of Pootatuck fine sandy loam (Attachment B).The Pootatuck soil series consists of very deep, moderately well drained loamy soils formed in alluvial sediments.

Wetland Type /Classification and Stream Delineation

No wetlands appear on the NWI map (Attachment C); however one wetland system was delineated within the survey area. A narrow, somewhat linear wetland drainage is located along Route 101 which drains to Robbins Brook (Attachments A & D). This wetland is a palustrine emergent wetland with a saturated to seasonally flooded hydrologic regime (PEM2/1E). Dominant vegetation within the wetland includes northeastern manna grass (*Glyceria melicaria*), American elm (*Ulmus americana*), and broad-leaf meadowsweet (*Spirea latifolia*). Soils consist of very dark mucky modified loamy sands (Attachment F).

Top of bank (TOB) and the ordinary high water (OHW) were flagged along Robbins Brook (Attachments A & D). The watercourse has gradual to vertical banks and the substrate is comprised of sand with some cobble and boulders throughout the streambed. The width averages about 20 feet wide across the survey area.

Extent of Invasive Species

A few patches of invasive plants were observed in the survey area including reed canary grass (*Phalaris arundinacea)* and glossy false buckthorn (*Frangula alnus*) at the northeast and southeast portions of the survey site, respectively (Attachment A).

Natural Heritage Review

The NHB query produced a negative result, indicating that there are currently no recorded occurrences for sensitive species or exemplary natural communities within the survey area (Attachment E).

Type and Extent of Rare Plants/Natural Communities

No rare plants or exemplary natural communities were observed within or in the vicinity of the survey area.

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http://des.nh.gov/organization/divisions/water/wetlands/index.htm
Permit Application Status: http://des.nh.gov/onestop/index.htm

PERMIT APPLICATION – ATTACHMENT A
MINOR & MAJOR 20 QUESTIONS

Env-Wt 302.04 Requirements for Application Evaluation – For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1 The need for the proposed impact.

The existing curbs are in deteriorated condition. Temporary impacts are required to access the curbs.

2. That the alternative proposed by the applicant is the one with the least impact to the wetlands or surface waters on site.

The alternatives considered are as follows:

Replace deck: **Average daily traffic on this section of Rte. 101 is high. To facilitate a deck replacement, a temporary bridge would have to be installed. This would greatly increase wetland impacts in the area because the temporary structure would be constructed next to the bridge.**

Repair curbs: **The curbs can be repaired with only temporary impacts to the wetlands and traffic can be maintained with only minor inconvenience. This is the chosen alternative and it proposes the least amount of environmental impacts.**

In the January 20, 2016 Natural Resource Agency Coordination Meeting no concerns were raised.

3. The type and classification of the wetlands involved.

R2UB1,2: Riverine, lower perennial, unconsolidated bottom, cobble gravel, sand
PEM2/1E: Palustrine, emergent, nonpersistent/persistent, seasonally flooded/saturated
Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

Robbins Brook is located within the Middle Connecticut watershed and flows generally southwest to Minneawa Brook.

5 The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

Robbins Brook is located is not considered a rare wetland/stream.

6. The surface area of the wetlands that will be impacted.

1114ft^2 Riverine (1114ft^2 temporary, 0ft^2 permanent)
104ft^2 Palustrine (104ft^2 temporary, 0ft^2 permanent)
444ft^2 Bank (444ft^2 temporary, 0ft^2 permanent)

7. The impact on plants, fish, and wildlife, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

No rare or special concern species were identified within the proposed project area.

There were no State or Federally listed threatened or endangered species identified within the project limits.

As for the Northern Long-eared Bat (NLEB), tree clearing is not required as a result of the proposed work. Furthermore, the Bureau of Bridge Maintenance will be completing a Bridge Inspection Form no more than 7 days prior to commencing construction. If no signs of bat utilization are observed, and no clearing is proposed, the project will have No Effect on NLEB. If any signs of bat utilization are observed, work will not commence until coordination with USFWS and NHDOT Bureau of Environment has been completed.

There are no species known to be at the extremities of their ranges located in the project area.

Migratory fish and wildlife will be protected under the direction of NH Fish and Game.

The Department has coordinated with DRED and the results of the NHB review revealed no records in this area.

There were no vernal pools identified and/or delineated in the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

During construction, access to the nearby residents and/or commercial businesses will be maintained at all times. Access will be maintained by alternating traffic with a one lane closure. Robbins Brook is non-navigable water which makes it non-conducive to boaters. During construction fishing activities from the banks of the brook will need to occur outside of the construction work zone. When construction is completed, the project as proposed will be a benefit to the public commerce.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The project will not significantly interfere with the aesthetic interests of the general public. The proposed structure will be more pleasing to the eye than the existing pipe in poor condition.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The project will not interfere with or obstruct public rights of passage or access. During construction at least one lane of alternating traffic will be maintained at all times. This will ensure access to all nearby businesses and residential homes in this area. Upon completion of this project the bridge will be reopened to two way traffic.

11. The impact upon the abutting pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to riprap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The project is expected to have a positive impact on abutting properties. The proposed structure will better serve the abutting properties if they need to travel on the road.

The project as proposed will not affect the chance of flooding on abutting properties.

12. The benefit of a project to the health, safety, and well-being of the general public.

The project will provide a safer, longer lasting structure and roadway. If the structure is not repaired, the bridge will eventually be load posted or closed. Keeping the roadway open benefits commerce, trade, emergency access, etc, for the general public.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and difference in the quality of water entering and exiting the site.

The surface water currently runs off the road and into Robbins Brook. Upon completion of the project surface will drain water in a similar manner. Water will run off the bridge at the curb lines, to the wingwalls, and then off the structure. This will have no adverse effects on the quality or quantity of surface and ground water. Best Management Practices will be used to prevent any adverse effect to water quality during construction.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: The proposed repair will have no effect on the possibility of flooding in the area.

Erosion: The proposed repair will have no effect on the possibility of erosion in the area.

Sedimentation: Nothing that will be a barrier to sediment transport will be installed in this project.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface waters will not be reflected or redirected as a result of this project. Robbins Brook does not have enough surface water for wave energy to be an issue.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alternations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage ownership of that wetland and the percentage of that ownership that would be impacted.

The work consists of a repair of an existing bridge structure. There are no similar structures in the vicinity owned by other parties that would require repair.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The value of the wetland as a habitat for living organisms will be unchanged. A function of Robbins Brook is to carry water from a higher elevation to a lower elevation. This project will not interfere with that function.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

This project is not located in or near any Natural Landmarks listed on the National Register.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

There are no areas named in acts of congress or presidential proclamations as national rivers, national wildness areas, or national lakeshores that will be impacted as a result of this project.

20. The degree to which a project redirects water from one watershed to another.
The project as proposed will not redirect water from one watershed to another.

Additional comments

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGE MAINTENANCE
7 Hazen Drive, PO Box 483, Concord, NH 03302-0095
Phone: (603) 271-3667 Fax: (603) 271-1588

WETLANDS PERMIT APPLICATION – ATTACHMENT C
Stream Crossing Requirements & Information

Env-Wt 904.09(a) – If the applicant believes that installing the structure specified in the applicable rule is not practicable then the applicant may propose an alternative design in accordance with this section.
1. Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as "*available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes*") *(question 2, Attachment A, Minor and Major 20 Questions)*;
Robbins Brook has a drainage area of 3.87 square miles which qualifies this stream as a Tier 3 Crossing. The required span based on regression equations and the 100-year flow from NH Streamstats is 31'-0" for a total bridge replacement. Installing a structure with a 31'-0" span would cost approximately $1,000,000 and the cost for the proposed structure is approximately $60,000. The additional costs are incurred because the scope of a bridge replacement is so much greater than replacing the curbs.
2. Please explain how the proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable.* Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed...
...In accordance with the NH Stream Crossing Guidelines:
It is not practicable to accommodate the full span as proposed by the NH Stream Crossing Guidelines because a replacement of the structure is not required. **The proposed structure will match the existing slope and alignment.** **The bottom of the streambed below the structure will not be changed as a result of this project.** **Wildlife passage through the proposed structure will not be changed as a result of this project.** **The proposed structure will maintain the flow depths found in the existing structure.**
...With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing:
Water depths and velocities within the crossing at a variety of flows will be comparable to the existing depths and velocities. These flows are comparable to those found in the natural channel upstream and downstream of the stream crossing.
...To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage:
It is not possible to provide vegetated banks on both sides of the watercourse below the roadway, regardless of the type of structure installed.
...To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the function of the natural floodplain *(questions 14 and 15, Attachment A, Minor and Major 20 Questions)*;
The proposed project will not affect the natural alignment and gradient of the stream channel. High flows will not be restricted, and low flows will be maintained as a result of this project.

...To accommodate the 100-year frequency flood and to ensure that there is no increase in flood stages on abutting properties *(questions 11 and 14, Attachment A, Minor and Major 20 Questions)*:
The project is expected to have a positive impact on abutting properties. The structure repair will better serve the abutting properties if they need to travel on the road. **The project as proposed will not alter the chance of flooding on abutting properties.**
...To simulate a natural stream channel:
The existing stream channel is currently a natural bottom and this will not be changed as a result of this project.
...So as not to alter sediment transport competence *(question 14, Attachment A, Minor and Major 20 Questions)*:
Nothing that will alter sediment transport will be installed in this project.
Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:
(a) Not be a barrier to sediment transport *(question 14, Attachment A, Minor and Major 20 Questions)*;
Nothing that will be a barrier to sediment transport will be installed in this project.
(b) Prevent the restriction of high flows and maintain existing low flows *(question 14, Attachment A, Minor and Major 20 Questions)*;
High flows will not be restricted, and low flows will be maintained as a result of this project.
(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the water body beyond the actual duration of construction *(question 7, Attachment A, Minor and Major 20 Questions)*;
This project will take place in the summer and not during fish spawning season; therefore, migratory fish and other aquatic life will not be impacted during construction.
(d) Not cause an increase in the frequency of flooding or overtopping of banks *(question 14, Attachment A, Minor and Major 20 Questions)*;
The proposed project will not affect the chance of flooding. High flows will not be restricted, and low flows will be maintained as a result of this project.
(e) Preserve watercourse connectivity where it currently exists *(question 15, Attachment A, Minor and Major 20 Questions)*;
Connectivity will remain unchanged with the proposed project and will not be worsened.
(f) Restore watercourse connectivity where...
...connectivity previously was disrupted as a result of human activity(ies) *(question 15, Attachment A, Minor and Major 20 Questions)*;
Connectivity will remain unchanged as a result of this project.
...restoration of connectivity will benefit aquatic life upstream or downstream of the crossing *(question 15, Attachment A, Minor and Major 20 Questions)*;
Aquatic life upstream and downstream will not be affected as a result of this project.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing *(question 14, Attachment A, Minor and Major 20 Questions)*;
The project as proposed will not change flow through the structure therefore erosion, aggradion or scour will not occur.
(h) Not cause water quality degradation *(question 13, Attachment A, Minor and Major 20 Questions).*
The project as proposed will not impact the quantity or quality of surface and/or groundwater at this site. Best Management Practices will be used to prevent any adverse effect to water quality during construction.

Hydraulic Data

Drainage Area – 3.87 sq mi

Q 100 = 709 cfs.

The proposed structure is expected to pass a 100-year flood event.

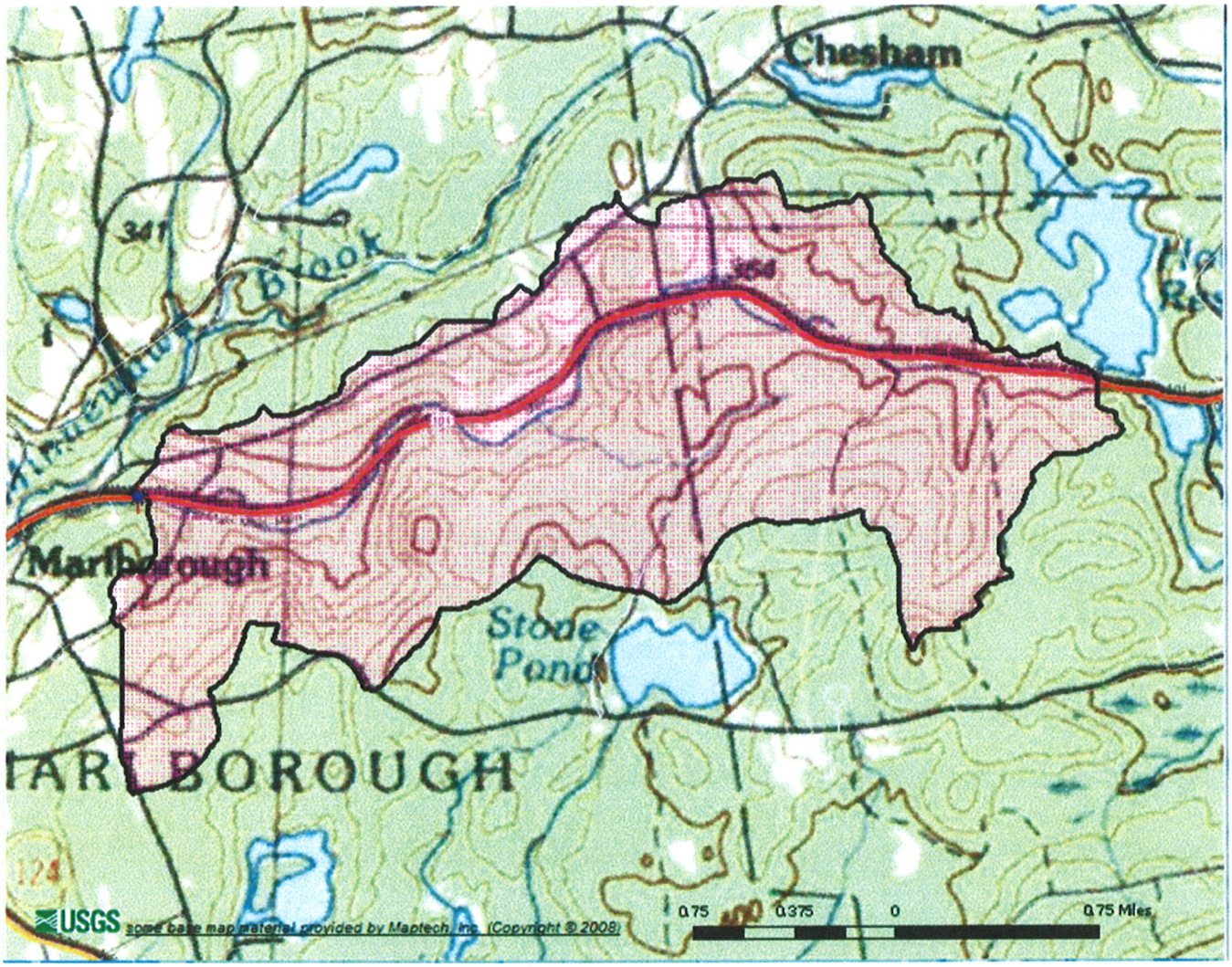


Figure 7: Watershed

US Army Corps of Engineers ®
New England District

New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org, specifically the book Natural Community Systems of New Hampshire.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres.		X
2.6 What is the size of the existing impervious surface area?	2184 ft²	
2.7 What is the size of the proposed impervious surface area?	2184 ft²	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	0%	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)		X
3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X

3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**		N/A

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law..

New Hampshire Natural Heritage Bureau

To: Tony Weatherbee
7 Hazen Drive
Concord, NH 03302

Date: 1/4/2016

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 1/4/2016

NHB File ID: NHB16-0033 Applicant: Tony Weatherbee

Location: Tax Map(s)/Lot(s):
Marlborough

Project Description: Rehabilitate the bridge that carries NH Rte. 101 over Robbins Brook (089/127). The existing structure is a single span concrete slab bridge that has a 14'-0" clear spans and 27'-9" deck width. Proposed work consists of replacing the curbs and widening the deck over the existing substructure. Impacts will be temporary for construction access.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

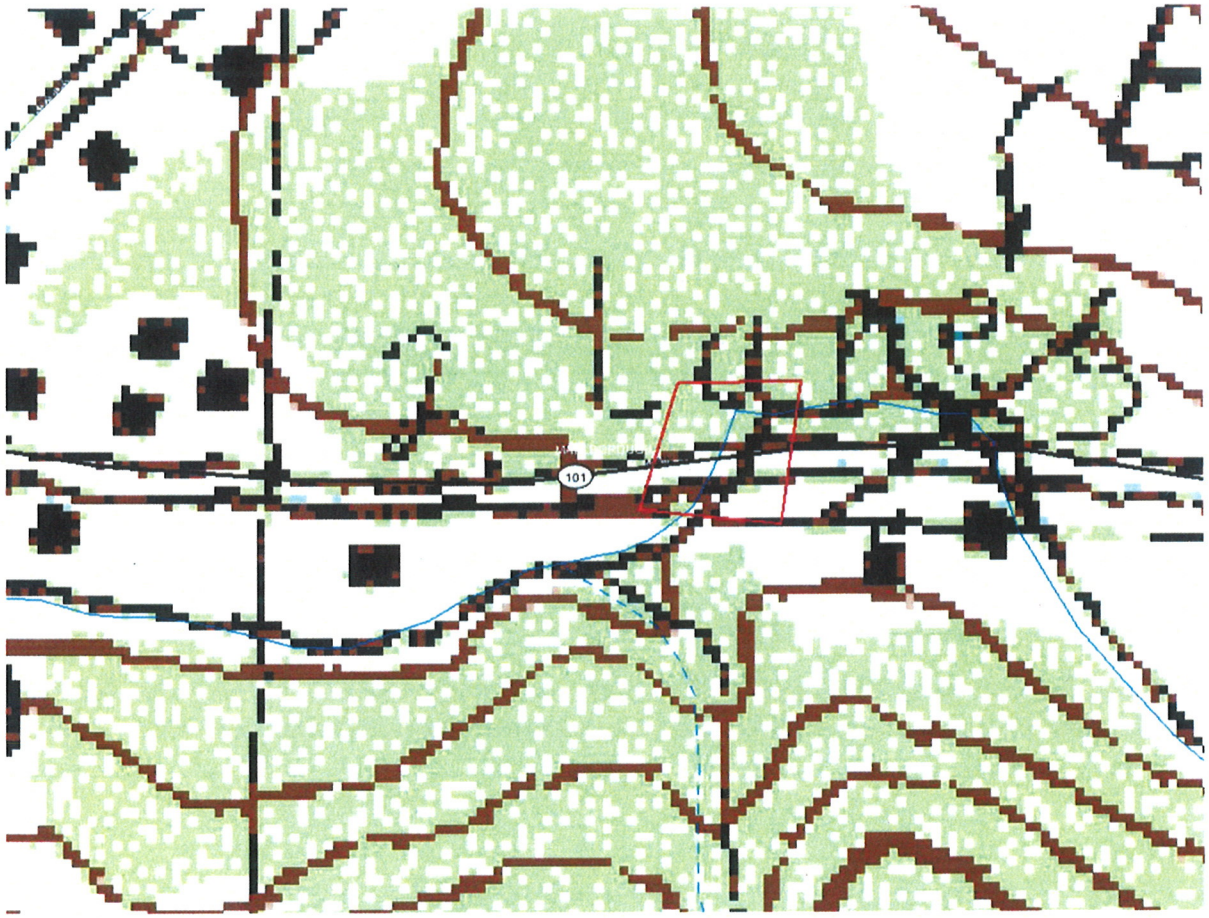
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 1/3/2017.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB16-0033



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2016-SLI-0791
Event Code: 05E1NE00-2016-E-01044
Project Name: Marlborough 089/127

January 14, 2016

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Marlborough 089/127

Official Species List

Provided by:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
(603) 223-2541
http://www.fws.gov/newengland

Consultation Code: 05E1NE00-2016-SLI-0791
Event Code: 05E1NE00-2016-E-01044

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

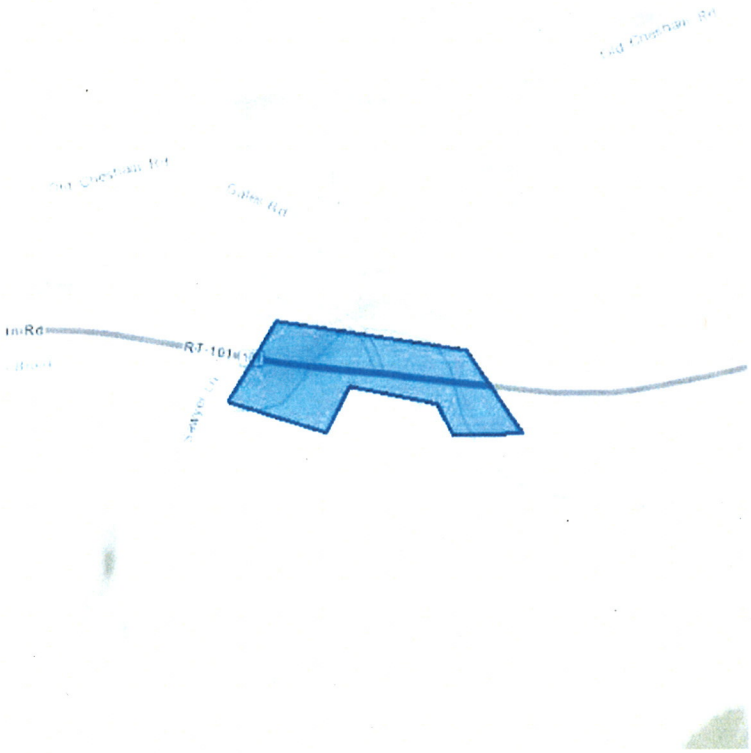
Project Name: Marlborough 089/127
Project Description: The project location is the bridge that carries Rte. 101 over Robbins Brook. The existing structure is concrete slab bridge that has a 14â-0â clear span. The curbs are in a deteriorated condition. The bridge will be widened over the existing substructure and the curbs will be replaced in kind.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Marlborough 089/127

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-72.18837261199951 42.906517666959104, -72.18914508819579 42.90557463952673, -72.18756794929504 42.90520528318407, -72.18720316886902 42.9057475289693, -72.18578696250916 42.905543205030526, -72.18551874160765 42.90516598982589, -72.18439221382141 42.90518170717217, -72.18530416488647 42.906171891908954, -72.18837261199951 42.906517666959104)))

Project Counties: Cheshire, NH

United States Department of Interior
Fish and Wildlife Service

Project name: Marlborough 089/127

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	**Status**	**Has Critical Habitat**	**Condition(s)**
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

MITIGATION REPORT

As determined in the January 20, 2016 Natural Resources Agency meeting, no mitigation is required for this project.

Wetland Application – NHDOT Cultural Resources Review

For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers' *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the enclosed Standard Dredge and Fill Application for potential impacts to historic properties.

Above Ground Review

Known/approximate age of structure: NH RT 101 over Robbins Brook
1935 Concrete Slab bridge (089/127); 14' span;
Widen bridge over existing structure, replace curbs in kind

☒ No Potential to Cause Effect/No Concerns

☐ Concerns:

Below Ground Review

Recorded Archaeological site: ☐Yes ☒No

Nearest Recorded Archaeological Site Name & Number: 27-CH-0043
☐Pre-Contact ☐Post-Contact

Distance from Project Area:
1.696 miles (2.73 km) northeast of project area

☒ No Potential to Cause Effect/No Concerns
Widen bridge over existing sub structure; proposed structure will match the existing slope and alignment; temporary scaffolding in brook, impacts in previously disturbed areas; temporary bridge structure placed next to bridge in order to replace deck

☐ Concerns:

Reviewed by:

Sheila Charles
Jill Edelo

NHDOT Cultural Resources Staff

1/27/2016
1/27/2016

Date:

Figure 1: West approach (5/2015).

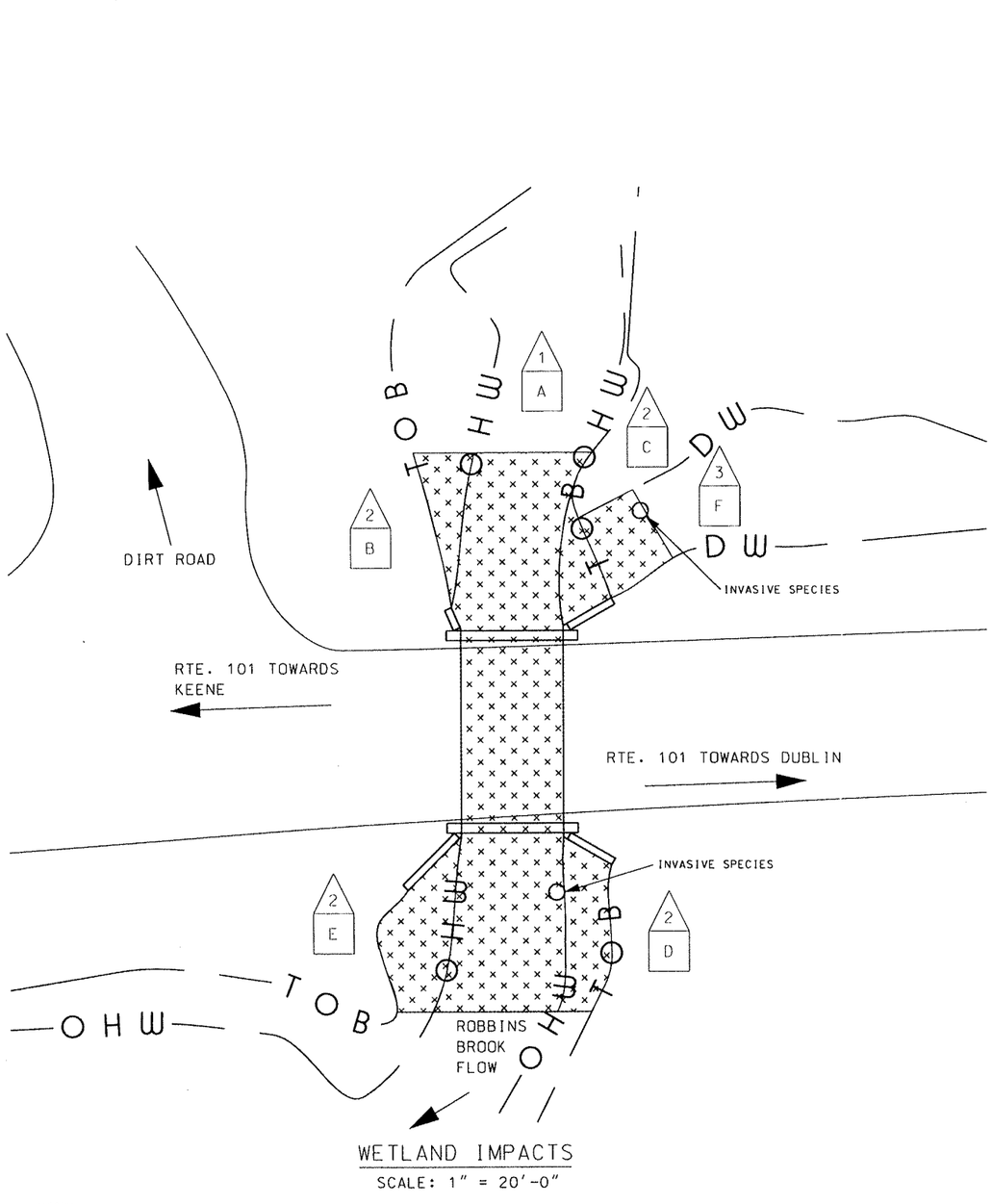
Figure 2: East approach (5/2013).

Figure 3: South curb spalled at old steel post (6/2010).

Figure 4: Upstream of structure (8/2014).

Figure 5: Downstream of structure (8/2014).

Figure 6: South elevation (6/2000).



WETLAND IMPACTS

SCALE: 1" = 20'-0"

WETLAND IMPACT SUMMARY					
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA		
			PERMANENT IMPACTS		TEMPORARY IMPACTS
			N.H.W.B. (NON-WETLAND) SF	N.H.W.B. & A.C.O.E. (WETLAND) SF	SF
1	R2UB1.2	A			1114
2	BANK	B			82
2	BANK	C			69
2	BANK	D			132
2	BANK	E			161
3	PEM2/1E	F			104

PERMANENT IMPACTS: 0 SF
TEMPORARY IMPACTS: 1662 SF

TOTAL IMPACTS: 1662 SF

WETLAND CLASSIFICATION CODES	
R2UB1.2	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE GRAVEL/SAND
PEM2/1E	PALUSTRINE, EMERGENT, NONPERSISTENT/PERSISTENT SEASONALLY FLOODED/SATURATED
BANK	

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

WETLAND DESIGNATION NUMBER

WETLAND IMPACT LOCATION

WETLAND MITIGATION AREA

MITIGATION

THE STATE OF NEW HAMPSHIRE
STEVE W. JOHNSON
No. 7395
LICENSED PROFESSIONAL ENGINEER

1/21/16

10 0 10 20
SCALE IN FEET

WETLANDS DELINEATED BY FB ENVIRONMENTAL

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN MARLBOROUGH BRIDGE NO. 089/127 STATE PROJECT 40516
LOCATION RTE. 101 OVER ROBBINS BROOK

WETLAND IMPACTS

BRIDGE SHEET 1 OF 1

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	ANW	1/14/16	CHECKED		
DRAWN	ANW	1/14/16	CHECKED		
QUANTITIES			CHECKED		
ISSUE DATE		FISCAL YEAR 2016	CREW 07	SHEET NO. 1	TOTAL SHEETS 1
REV. DATE					

FILE NUMBER MARLBOROUGH 089/127

SHEET SCALE
AS NOTED